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SCIENTIFIC NOTES AND NEWS.

THE IPSWICH MEETING OF THE BRITISH ASSOCIATION.

THE address of the president, Sir Douglas Galton, already printed in this journal, attempted the difficult task of reviewing the progress of science during the sixty years that have elapsed since the foundation of the Association. His long service as secretary made him especially familiar with those scientific advances to which the Association has directly or indirectly contributed. Prof. W. M. Hicks, president of Section A (physics), reviewed recent attempts to explain the ultimate nature of matter. Prof. Raphael Meldola, president of Section B (chemistry), reviewed the great progress made by the science since the previous Ipswich meeting in 1851. The address of Mr. W. Whitaker, president of Section C (geology), is reported in the present number of *SCIENCE*. Prof. W. A. Herdman, president of Section D (zoölogy), dealt almost entirely with questions of marine zoölogy. Mr. H. J. Mackinder, president of Section E (geography), and Mr. L. L. Price, president of Section F (economics), reviewed recent developments in their respective departments. Mr. L. F. Vernon-Harcourt discussed the relation of engineering to science with special reference to mathematics and chemistry. The address of Prof. Flinders Petrie, president of Section H (anthropology), on interference with lower civilizations has been widely quoted in the daily papers. In Section K (botany) the president, Mr. W. T. Thiselton-Dyer, gave an account of Henslow in his relations to Darwin, and compared the old natural history and the present laboratory methods in botany.

THE scientific papers presented before the several sections were numerous and interesting, but it is difficult to select any for

special notice. Lord Rayleigh, who the year before announced the discovery of argon, described minute investigations into the refractive indices and viscosities of argon and helium, and Professor Runge, of Hanover, communicated the results of experiments, showing that the gas from cleveite is made up of two constituents, of which one is always present in the sun, and the other only occasionally and proposed that the name helium should be restricted to the former. The interpretation of the results obtained with the spectroscope was discussed by Prof. Schuster and Dr. G. J. Stoney. Two of the most important papers presented before the Association, that on the 'Electrification of Air' by Lord Kelvin, Mr. Maclean and Mr. Galt, and that on 'Oysters and Typhoid' by Professors Boyce and Herdman have been contributed by the authors to this journal.

THE attendance at the Ipswich meeting was the smallest since 1880, the total number of members present being 1,234. This is, however, nearly double the number that attended a previous meeting held in this town in 1851, and bears witness to the increasing size and influence of the Association. According to the report of Professor Rücker, general treasurer, the receipts for 1894-95 were £4,214; £1,160 was appropriated by the committee for scientific purposes and distributed among the different sections as follows: Mathematics and Physics, £245; Chemistry, £80; Geology, £140; Zoölogy, £405; Geography, £10; Mechanical Science, £40; Anthropology, £180; Physiology, £25; for the report of the Corresponding Societies, £30. Sir Douglas Galton resigned the general secretaryship of the Association, a position which he has held for more than twenty-four years. Professor E. A. Schäfer was elected his successor. The next meeting of the Association will be held at Liverpool, commencing

on Wednesday, September 16, 1896, under the presidency of Sir Joseph Lister. Toronto was selected for the place of meeting in 1897. An invitation from Bournemouth has been received for the year 1898, and an invitation from Dublin is expected for the same year.

THE BROOKLYN INSTITUTE OF ARTS AND
SCIENCES.

THE prospectus of the Brooklyn Academy of Arts and Sciences for 1895-96 has been recently issued. It gives preliminary announcements of the courses of instruction, lectures, exhibitions and entertainments planned for the ensuing year. A number of well known specialists from other institutions have been invited to lecture during the year, and many of these have already consented.

Six illustrated lectures in astronomy may be mentioned as of special interest. Mr. Percival Lowell has been invited to lecture on 'The Planet Mars,' Professor Henry A. Newton on 'Meteors,' Professor Edward E. Frost on 'Stellar Spectroscopy,' Professor James E. Keeler on 'The Methods of Astro-Physical Research with Special Reference to Saturn's Rings,' Mr. Wallace Gould Levison on 'Radiant Matter,' and Mr. John A. Brashear on 'The Evolution of a Telescope, or the Story of an Astronomical Object Glass.' In the department of Domestic Science Professor John S. Billings will lecture on 'The Diseases of Occupations,' and Professor R. H. Chittenden on 'The Value of Meats as Food.' The names of Mr. William Kent, Professor R. H. Thurston and Professor Frederick R. Hutton appear in the list of lecturers in the department of Engineering. The Geological department is particularly strong, lectures being announced on the first Monday evening of each month by President T. C. Mendenhall, Professor R. S. Woodward, Dr. Charles D. Walcott, Dr.

Joseph F. James, Professor Charles S. Prosser, Dr. W J McGee, Professor W. M. Davis and Professor D. S. Martin. Professor Woodward will also deliver a course of lectures in the Mathematical department. Professor William O. Crosby, Professor Samuel L. Penfield, Dr. W J McGee and Professor A. J. Moses are announced to lecture in the Mineralogical department. In psychology Professor William James will deliver a course of six lectures on 'Recent Researches into Exceptional Mental Phenomena,' and Professor G. T. Ladd a course of six lectures on hypnotism from the physiological and psychological points of view. It is hoped that Professor E. D. Cope and Professor E. B. Wilson will lecture in the Zoölogical department.

Further information concerning the Institute and the terms of membership may be obtained from the Director, Professor Franklin W. Hooper, 502 Fulton Street, Brooklyn.

GENERAL.

PROFESSOR RAMSAY writes to *Nature* that he has received a letter from Prof. Olszewski, of Krakau, in which he informs him that having exposed a sample of helium which he sent him to the same treatment as was successful in liquefying hydrogen—namely, compressing with a pressure of 140 atmospheres, cooling to the temperature of air boiling at low pressure, and then expanding suddenly—he has been unable to detect any sign of liquefaction. The density of helium being, roughly speaking, twice that of hydrogen, it is very striking that its liquefying point should lie below that of hydrogen. It may be remembered that argon, which has a higher density than oxygen, liquefies at a lower temperature than oxygen; and it was pointed out by Prof. Olszewski that this behavior was not improbably connected with its appar-

ently simple molecular constitution. The similar fact now recorded for helium may therefore be regarded as evidence of its simple molecular constitution.

THE directors of New York Botanic Garden, to be laid out at Bronx Park, have formally accepted the allotment of 250 acres in Bronx Park, with the restrictions relating to the cutting down of trees in Hemlock Grove, and voted to request the Park Department to secure from the city the \$500,000 appropriated in the act of incorporation in case \$250,000 was raised by private subscription. The entire \$250,000 has been subscribed in amounts of \$25,000, and a large part of the sum has already been paid in. The gardens are to be left so far as possible in their natural condition.

ACCORDING to the returns issued on the present state of cholera in Russia, there occurred during the last fortnight of September in the province of Podolia 51 cases and 19 deaths from the disease, and in the province of Volhynia 7,827 cases and 3,085 deaths.

THE Committee on Terrestrial Magnetism of the British Association presented at the Ipswich meeting an elaborate analysis of a series of observations made with the magnetographs at Kew Observatory by the recently appointed Director, Dr. Chree.

MACMILLAN & Co. have issued the first number of a quarterly journal, *The American Historical Review*. Six of the leading American historical scholars constitute a board of editors, and Professor J. Franklin Jameson, of Brown University, is managing editor. The number contains 208 large octavo pages, and maintains throughout a high standard of scientific scholarship.

MR. J. GRAY read a paper before Section H, of the British Association, upon anthropometric observations in East Aberdeenshire, which pointed to the existence in Aberdeenshire (1) of a Germanic or Can-

stadt type, fair-haired, with light eyes, concave nose, and an average height of 5 ft., 7 in.; (2) of an Iberian or Cro-Magnon type, dark-haired, dark-eyed, aquiline-nosed, and of an average height of 5 ft., 11½ in.; and (3) of a broad-headed type, dark-haired, dark-eyed, probably straight-nosed, with an average height of 5 ft., 4 in.

THE issue of the *British Medical Journal* for October 5th states that the lines inscribed on Huxley's tombstone, and quoted in the last number of SCIENCE, are part of a poem by Mrs. Huxley, and were used as Huxley's epitaph at his own request.

MR. W. J. L. WARTON states in *Nature* that a deeper spot in the ocean than any yet known has been recently found by H. M. surveying ship *Penguin*. Unfortunately the observation was not complete, as a fault in the wire caused it to break when 4,900 fathoms had run out without bottom having been reached. This occurred in lat. 23° 40' S., long. 175° 10' W., about 60 miles north of a sounding of 4,428 fathoms obtained by Captain Aldrich in 1888. As the deepest cast hitherto obtained is one of 4,655 fathoms near Japan, it is at any rate certain that the depths at the position named is at least 245 fathoms greater.

IT is stated that Professor Joly has sold the right to his process of color photography for the United States and Canada to Mr. Schuyler, of New York, for \$30,000. He is negotiating for the sale of the right to the process for other countries, and the invention is patented for England.

THE third annual convention of the National Society of Electro-therapeutists met at Boston on Wednesday, the 17th and 18th of September, under the presidency of Dr. Wm. L. Jackson. In speaking of recent advances in the applications of electricity to therapeutics, the president said: "Already electricity has a wide sphere of usefulness. Even its physical properties, as heat and

light, assist us. By means of its light, we obtain a knowledge of internal organs and parts by which we are enabled to treat them far more satisfactorily than we could without its aid. It has been proved that the effect of the electric light on plants is to stimulate their growth and improve their condition. This being a fact, it is reasonable to suppose that it might have the same effect on animal life, and, indeed, recent experiments with the electric light bath upon the bodies of patients have shown this to be the case. It is in the diseases of the nervous system that it finds one of its most useful spheres of influence. Not only is it valuable in determining the site of disease, but it gives us most healthful aid in neuralgic affections and paralysis. Above all, it is one of the safest and best general tonics at our command."

THE jury of awards of the Atlanta Exposition, with President Gilman at the head, will assemble in Atlanta on October 15. Among the members of the jury are the following:

Gen. Henry L. Abbot, United States Engineers, 'Engineering, and Public Works.'

President C. K. Adams, of the University of Wisconsin, 'Liberal Arts.'

Prof. N. Murray Butler, of Columbia College, 'Education.'

G. Brown Goode, of the Smithsonian Institution, 'Fisheries.'

Morris K. Jesup, President of the American Museum of Natural History, New York, 'Museums, Parks, etc.'

President T. C. Mendenhall, of the Worcester Technological Institute, 'Machinery.'

Prof. Simon Newcomb, F. R. S., 'Instruments of Precision.'

Prof. Ira Remsen, Baltimore, 'Chemistry.'

Prof. Henry A. Rowland, F. R. S., Johns Hopkins University, 'Electricity.'

THE State Geological Survey of New York, according to the *Engineering and Mining Journal*, has been busily at work this summer. Prof. Charles W. Comstock, one of the professors of engineering at Cornell

University, who has done excellent work on the surveys in Colorado, is in charge of work on the upper Hudson district with numerous able assistants. Prof. C. Wellman Park, recently in charge of the department of physical science at the Rensselaer Polytechnic Institute, has charge of the survey work in Franklin county, with a large corps of men engaged in making surveys of large tracts of State land on township 24, etc., near the Saranac Lakes. Mr. Monroe Warner, recently a United States Deputy Surveyor for South Dakota, is at work with a party in townships 1 and 2 of Totten & Crossfield's purchase in the county of Hamilton, near Scandago Lake and Lake Pleasant. Mr. Solomon Lefevre, formerly an assistant on the New Jersey Geological Survey under Prof. Cook, is in charge of surveys in the district of the Indian River and West Canada Creek, Vrooman's patent, Herkimer county. Perhaps one of the most important results of the work accomplished of general interest will be some computations made by Prof. Olin H. Landreth, formerly of Vanderbilt University, Nashville, Tenn., now professor of mechanics and engineering at Union University.

MACMILLAN & Co. announce a translation, by Mr. A. J. Butler, of Professor Frederick Ratzel's *History of Mankind*, to be published in thirty monthly parts. There will be a preface by Professor E. B. Tylor and the work will be elaborately illustrated.

MR. E. H. GRIFFITHS opened a discussion at the recent meeting of the British Association on Heat Standards. He said the thermal capacity of water had been taken as a standard since the time of Black, but caused many inconveniences. The different heat units proposed were: (1) the specific change per degree centigrade of the product of pressure and volume of a gramme of hydrogen, by Macfarlane Gray; (2) the latent

heat of evaporation of a gramme of water at ordinary pressure, by Joly; (3) the latent heat of fusion of a gramme of ice, by Pickering. But none of these are simply related to other units, and they are arbitrary. He suggested a thermodynamic unit—namely, the heat energy of 42 million ergs. This is a natural and an absolute unit, independent of the researches of any observer, and convenient in magnitude. It may be interpreted practically as the amount of heat required to raise a gramme of water 1 deg. C. at 10 deg. C., as measured on a hydrogen thermometer.

UNIVERSITY AND EDUCATIONAL NEWS.

THE buildings of the University of the City of New York at University Heights will be formally opened on Saturday, October 19th. The two buildings that will be dedicated are the Hall of Languages and the Havemeyer Laboratory. The new gymnasium is also finished and will be open for inspection. Dr. Anson Judd Upson, Chancellor of the University of the State of New York, will make an address and speeches are expected from Governor Morton, Mayor Strong, Dr. Wm. T. Harris, President Hill of Rochester and President Gates of Amherst. Part of the dedicatory exercises will be the breaking of ground for the new library building.

THE Freshman class in the academic department of Yale University numbers 330, one less than last year. The Freshman class in the scientific department numbers 149, a decrease of 101 as compared with last year. This decrease is attributed to changes in requirements of admission. There are this year 149 graduate students, as compared with 138 in 1894 and 143 in 1893. The number of professors and instructors is this year 227, an increase of 20. The professorships of natural philosophy and astronomy and of botany have not been filled.

By the will of Col. W. L. Chase \$5,000 is bequeathed to the president and fellows of Harvard College to establish a scholarship in the medical school, to be known as the Charles B. Porter scholarship.

DR. FREDERICK F. DUNLAP, a graduate of the University of Michigan, has been called to an assistant professorship of organic chemistry in Yale University.

At the Ohio Wesleyan University, Professor Albert Mann, Ph. D., who has recently returned from Munich, has entered upon his new field of labor in the biological department. The enrollment of students in this department is twice as great as during any preceding year in the history of the College. Professor Trumbull G. Duvall, Ph. D., has just resigned the chair of philosophy at DePauw University, in order to take charge of the department of philosophy. Mr. Duvall is establishing a fine departmental library in connection with his philosophical instruction at the University. Lieut. Waldo E. Ayer, of the 12th U. S. Infantry, has been detailed by Secretary Lamont as professor of military science and tactics. Prof. Ayer will report at the University for duty immediately.

MR. DANIEL T. MACDOUGAL has lately been appointed assistant professor of botany in the University of Minnesota. He will have charge of the graduate and undergraduate courses in plant physiology. Miss Josephine E. Tilden has been awarded the Albert Howard Fellowship on the basis of her work on American fresh-water algae.

A NEW \$40,000 laboratory building is about completed for the departments of bacteriology, histology and pharmacy in the medical college of the University of Minnesota.

THE recently published 'Directory of the Officers and Students of Brown University' shows a total enrollment of 844 students, an increase of 104 over that of last year.